

Message Text

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PAGE 01 BONN 09113 01 OF 03 271618Z
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LIMITED OFFICIAL USE SECTION 01 OF 03 BONN 09113

E.O. 11652: N/A
TAGS: TGEN, GW
SUBJECT: US-FRG SCIENTIFIC AND TECHNICAL EXCHANGES:
HAVE THEY SERIOUSLY DECLINED?

REF: A. STATE 067701; B. BONN A-137, MARCH 1975

1. SUMMARY: REF A RAISES A COMPLEX QUESTION NOT EASY
TO SEPARATE INTO ITS COMPONENT PARTS. WE LACK THE
NUMERICAL DATA NECESSARY FOR A QUANTITATIVE RESPONSE
TO THE SPECIFIC QUESTION. CONSULTATIONS WITH APPRO-
PRIATE PRIVATE GERMAN OFFICIALS AND SCIENCE ADMINIS-
TRATORS CONFIRM THAT THEY, TOO, LACK DETAILED DATA ON
THE FLOW OF AMERICAN SCIENTISTS TO THE FRG. HOWEVER,
A CONSENSUS HAS EMERGED. THERE HAS BEEN SOME OVERALL
DECLINE IN THE NUMBER OF AMERICAN SCIENTISTS COMING TO
THE FRG. GERMAN OFFICIALS ARE NOT CONCERNED. THIS IS
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PAGE 02 BONN 09113 01 OF 03 271618Z

NOT RPT NOT SURPRISING BECAUSE CURRENT FRG EXCHANGE
PROGRAMS INSURE THAT THE FRG GETS AMERICAN SCIENTISTS
IN THE NUMBERS AND SPECIALIZATIONS DESIRED AND THAT
SELECTED GERMAN SCIENTISTS ARE ENABLED TO GO THE US.
WE SUGGEST THAT THE QUESTION BE FORMULATED DIFFER-
ENTLY: ARE AMERICAN NEEDS SATISFIED BY US-FRG
CONTACTS AND COOPERATION IN THE SCIENCES AND TECH-

NOLOGY, INCLUDING (AS ONLY ONE FACTOR) THE TWO-WAY FLOW OF AMERICAN AND GERMAN SCIENTISTS? IN REF B AND IN THE FOLLOWING PARAGRAPHS, WE HAVE ATTEMPTED TO EXPAND THIS TOPIC AS AN INITIAL CONTRIBUTION TO A STUDY OF THIS QUESTION. WE SUGGEST THAT THE FINAL ANSWER WILL BE "NO" AND OFFER SOME RELEVANT COMMENTS AND RECOMMENDATIONS. END SUMMARY.

2. INTRODUCTION: THE TEXT OF REF A OUTLINES A TOPIC FAR BROADER THAN THE SUBJECT QUESTION. EXCHANGES OF RESEARCH SCIENTISTS (PARA 2), RESEARCH PROJECTS (PARA 1) AND R&D MONEY (PARA 3A) REPRESENT ONLY THREE ELEMENTS IN THE COMPLEX MATRIX OF SCIENTIFIC AND TECHNOLOGICAL CONTACTS AND COOPERATION. A COMPLETE STUDY OF THIS TOPIC MUST CONSIDER A BROAD SPECTRUM FROM THE BASIC SCIENCES TO INDUSTRIAL TECHNOLOGY WITH DUE REGARD FOR THE SPECIFIC FIELD INVOLVED AND FOR THE MECHANISM AND MOTIVATION FOR THE EXCHANGE. AN ASSESSMENT OF THE SITUATION COULD VARY FOR EACH ELEMENT, AND FOR EACH ASPECT OF OUR MOTIVATION, I.E. THE NEEDS OF "SCIENCE" AS CONTRASTED WITH SCIENCE AS AN ELEMENT OF OUR FOREIGN POLICY. REF B, "REVIEW OF US OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC ACTIVITIES", COVERED SEVERAL PARTS OF THIS TOPIC. WHILE SOMEWHAT OUTDATED, WE BELIEVE IT MIGHT BE USEFUL SHOULD THE NRC STUDY PROCEED BEYOND CONSIDERATION OF THE EXCHANGE OF RESEARCH SCIENTISTS. WE BELIEVE THAT IT MUST DO SO TO EVALUATE THE IMPACT OF DIMINISHED EXCHANGES AND TO DESIGN AN APPROPRIATE LIMITED OFFICIAL USE

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PAGE 03 BONN 09113 01 OF 03 271618Z

REMEDY. IN THE FOLLOWING PARAGRAPHS, WE COMMENT BRIEFLY ON A NUMBER OF RELEVANT ASPECTS OF THE US-FRG "SCIENTIFIC INTERFACE".

3. THE BASIC SCIENCES: FEW EXPLICIT DATA ARE AVAILABLE. THE DOORS ARE OPEN AND WE ARE NOT AWARE OF ANY PROBLEMS. IF THE RESOURCES OF THE US SCIENTIFIC COMMUNITY ARE ADEQUATE, ITS NORMAL PROCESSES WILL INSURE ADEQUATE EXCHANGES. IF THERE IS A PROBLEM, IT IS PURELY DOMESTIC.

4. NATURAL VS. SOCIAL SCIENCES: FORMAL EXCHANGE PROGRAMS HAVE TENDED TO FAVOR THE SOCIAL SCIENCES BECAUSE OTHER AVENUES WERE OPEN FOR BIOLOGICAL AND PHYSICAL SCIENTISTS AND FOR TECHNOLOGISTS. WE SENSE A CHANGE. INCREASING NUMBERS OF THE "HARDER" SCIENTISTS SEEM TO BE SEEKING SUPPORT THROUGH THE MORE CONVENTIONAL CHANNELS. IF OUR IMPRESSION IS CORRECT, THIS FACT NEEDS STUDY AND CORRECTIVE ACTION

TO INSURE ADEQUATE AND BALANCED COVERAGE OF ALL
SCIENCES.

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PAGE 01 BONN 09113 02 OF 03 271703Z
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LIMITED OFFICIAL USE SECTION 02 OF 03 BONN 09113

5. ACADEMIC VS. INDUSTRIAL INTERESTS: AS FOR THE
BASIC SCIENCES, ACADEMIC INTERESTS SEEM WELL SATISFIED.
IN THE INDUSTRIAL AREA, HOWEVER, WE BELIEVE THAT THE US
GOVERNMENT DOES NOT ADEQUATELY EXPLOIT EXISTING
CONTACTS AND EXCHANGES. WHILE THIS WOULD BE DIFFICULT
TO DO, SUCH EXCHANGES ARE AN IMPORTANT PART OF THE
OVERALL US-FRG S&T INTERACTION AND INADEQUATE
INFORMATION MAKES ACCURATE, COMPREHENSIVE ASSESSMENTS
DIFFICULT.

6. TECHNOLOGY: TOGETHER WITH THE INDUSTRIAL INTERESTS
MENTIONED ABOVE, TECHNOLOGY REPRESENTS A CHALLENGING
FRONTIER AREA FOR INTERNATIONAL EXCHANGES. MOST OF
THE FOREIGN POLICY ISSUES WITH REAL SCIENTIFIC CONTENT
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PAGE 02 BONN 09113 02 OF 03 271703Z

INVOLVE TECHNOLOGY, NOT "SCIENCE", AND THE MAJORITY OF THESE INVOLVE INDUSTRIAL TECHNOLOGY OR TECHNOLOGY READY FOR INDUSTRIAL APPLICATION. AS EXAMPLES: TECHNOLOGY TRANSFER TO THE LDC'S; POLLUTION CONTROL; MOST NON-PROLIFERATION ISSUES; WEATHER MODIFICATION; DIRECT BROADCAST, COMMUNICATIONS, OCEAN NAVIGATION, AND EARTH RESOURCES SATELLITES. EVEN POPULATION CONTROL HAS ITS TECHNOLOGICAL ASPECTS. WITH RARE EXCEPTIONS, OUR EFFORTS TO DEVELOP VIABLE TECHNOLOGICAL EXCHANGES BEAR SCRAWNY FRUIT.

7. LONG-TERM VS. SHORT-TERM EXCHANGES: OUR CONTACTS NOTE THAT "SHORT-TERM" VISITS BY AMERICAN SCIENTISTS, I.E. FOR CONFERENCE PARTICIPATION AND CONSULTATIONS, HAVE DECLINED DRASTICALLY. PERHAPS FINANCIAL SAVINGS FROM DIMINISHED TRAVEL FUNDS HAVE HELPED TO MINIMIZE THE DECLINE IN LONGER-TERM EXCHANGES. WE SUGGEST THAT THIS ASPECT OF EXCHANGES MIGHT BE EXAMINED IN MORE DETAIL. IF DIMINISHED TRAVEL FUNDS HAVE, IN FACT, DIMINISHED PERSONAL CONTACTS BETWEEN SENIOR AMERICAN SCIENTISTS AND THEIR COUNTERPART GERMAN INSTITUTE DIRECTORS AND SIMILAR PERSONNEL, THE NEGATIVE IMPACT MAY BE TOO HIGH A PRICE TO PAY SIMPLY TO MAINTAIN THE NUMBER OF EXCHANGES AT A CONSTANT LEVEL.

8. COOPERATIVE RESEARCH PROJECTS: IN OUR VIEW JOINT RESEARCH PROJECTS ARE THE MOST EFFECTIVE TECHNIQUE FOR EXCHANGE OF MEANINGFUL TECHNOLOGICAL DATA. THEY NECESSARILY INVOLVE THE EXCHANGE OF SCIENTISTS AT ALL LEVELS AND INCORPORATE THE ESSENTIAL ELEMENT "REDUCTION TO PRACTICE". WE HAVE HAD SOME SUCCESSES IN SUCH EXCHANGES WITH THE FRG; THE MOST NOTEWORTHY BEING THE HELIOS SOLAR PROBE AT DOLLARS 250 MILLION, 80 PERCENT OF WHICH CAME FROM THE GERMANS. THESE PROJECTS ARE DIFFICULT TO DEVELOP BUT PAY REAL DIVIDENDS. WE RE-

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PAGE 03 BONN 09113 02 OF 03 271703Z

COMMEND GREATLY INCREASED ATTENTION TO THE OPPORTUNITIES IN THIS AREA. SEE REF B.

9. MILITARY R&D COOPERATION: FROM THE PERSPECTIVE OF THE SCIENCE COUNSELOR, THIS IS ONE AREA WHERE DIMINISHED EFFORT IS APPARENT. A DECADE AGO, THE MILITARY SERVICES MADE GRANTS IN SUPPORT OF NON-

MILITARY RESEARCH OVERSEAS, AND ADMINISTERED THESE PROGRAMS WITH TECHNICALLY-QUALIFIED FIELD PERSONNEL. THE ORIENTATION OF THIS PROGRAM CHANGED FOR WELL-KNOWN REASONS AND BOTH FUNDS AND PERSONNEL HAVE DECREASED MARKEDLY. NO OTHER USG AGENCY HAS ASSUMED THIS RESPONSIBILITY. WE BELIEVE THAT THE DECREASE IN THE MILITARY RESEARCH GRANT PROGRAM HAS RESULTED IN A LOSS OF CONTACT, PARTICULARLY WITH THE GERMAN APPLIED SCIENCE LABORATORIES, WHICH MAY BE SERIOUS. THIS ASPECT OF SCIENTIFIC EXCHANGE IS WORTHY OF A SPECIAL STUDY. MILITARY RLD COOPERATION WITH THE FRG ALSO INCLUDES DATA EXCHANGE AGREEMENTS, EXCHANGE VISITS OF SCIENTISTS AND A PROGRAM FOR EXCHANGES OF ENGINEERS.

10. THE TWO-WAY FLOW OF SCIENTISTS: AS INDICATED IN THE SUMMARY, OUR CONTACTS FEEL THAT THERE HAS NOT BEEN A SIGNIFICANT DECLINE IN THE NUMBER OF AMERICAN SCIENTISTS ALTHOUGH THE BALANCE BETWEEN THE SOCIAL AND PHYSICAL SCIENCES MAY HAVE ALTERED. GERMAN SCIENCE OFFICIALS ARE AWARE THAT AMERICAN SCIENTISTS IN THE FBKE SUPPORTED FROM A WIDE VARIETY OF SOURCES, BOTH PUBLIC AND PRIVATE. GERMAN EXCHANGE PROGRAMS INSURE THAT THEIR NEEDS ARE EVALUATED BY CONSULTATIONS AMONG ALL RELEVANT AGENCIES AND THAT THOSE EXCHANGES CONSIDERED DESIRABLE ARE FINANCED. THE FRG VALUES AMERICAN SCIENCE AND TECHNOLOGY VERY HIGHLY AND GERMANY

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PAGE 01 BONN 09113 03 OF 03 271626Z
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LIMITED OFFICIAL USE SECTION 03 OF 03 BONN 09113

PAYS ITS OWN WAY. FOR EXAMPLE, THE FRG SUPPLIES THREE-FOURTHS OF THE MONEY FOR THE FULBRIGHT PROGRAM HERE AND CREATED THE "MARSHALL PLAN FUND OF THE US" WHICH SEEKS THE MOST QUALIFIED AMERICAN SCIENTISTS. ALTHOUGH THE OVERALL LEVEL OF GERMAN-AMERICAN RESEARCH SCIENTIST EXCHANGE MAY HAVE REMAINED RELATIVELY CONSTANT, WE WONDER WHETHER THESE EXCHANGES MAY NOT NOW REFLECT GERMAN PRIORITIES RATHER THAN OUR OWN.

11. CONCLUSIONS: WE CONCLUDE THAT THE POTENTIALLY SERIOUS CONSEQUENCES OF DIMINISHED US-FRG SCIENTIFIC EXCHANGES ARE TO BE FOUND IN THE DETAILS OF THE PROCESS:

A. A POSSIBLE IMBALANCE BETWEEN "HARD"
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PAGE 02 BONN 09113 03 OF 03 271626Z

AND "SOFT" EXCHANGES;

B. PROBABLE LOSS OF SOME CONTACT WITH
THE GERMAN APPLIED SCIENCE INSTITUTES;

C. POSSIBLE IMBALANCE BETWEEN LONG-TERM
AND SHORT-TERM EXCHANGES;

D. INADEQUATE EMPHASIS ON "TECHNOLOGICAL"
COOPERATION AND JOINT RESEARCH
PROJECTS; AND

E. POSSIBLE IMBALANCE BETWEEN AMERICAN
AND GERMAN PRIORITIES IN THE OVERALL
EXCHANGE PROCESS.

REF B. LISTS SPECIFIC OPPORTUNITIES AND MAKES A NUMBER OF RECOMMENDATIONS. WE WOULD BE PLEASED TO RESPOND SHOULD THE DEPARTMENT ACCEPT THE PROPOSAL MADE IN SECTION H. ON PAGE 24 OF THAT AIRGRAM AND INITIATE A DIALOGUE WITH THE EMBASSY.

STOESSEL.

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Message Attributes

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